

# OPEN FILE

NORTH FLINDERS MINES LIMITED

RELINQUISHMENT REPORT FOR PORTION OF

EXPLORATION LICENCES NOS.

2366, 2367, 2369, 2370 and 6859

PERIOD TO 21/11/90

THE GRANITES 1:250,000 SHEET SF 52-3

AND

MOUNT SOLITAIRE 1:250,000 SHEET SF 52-4

D. A. C. ARCHIBALD  
JUNE 1991.

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## SUMMARY

Exploration Licences 2366, 2367, 2369 and 2370 form part of the North Flinders Tanami Project Area, confirmed by the Director of Mines in a letter dated 11th January 1988. Subsequently a group of additional exploration licences which included EL 6859 were given Project Area status in a letter from the Director dated 9th October 1990.

This report covers those parts of the Project Area set aside for relinquishment in accordance with the conditions of the Mining Act. An application for a partial deferral of reduction was accepted by the Secretary in April 1991.

The Company's primary interest has been the identification of mineable gold resources, though exploration methods include techniques designed to locate base metal and diamond deposits.

The entire exploration licence was initially evaluated by reconnaissance mapping, photointerpretation and airborne magnetics. Subsequent work on the relinquished portion of the licence area has included an assessment and integration of geophysical data to delineate exploration targets. No targets of sufficient merit to justify further evaluation were located in the relinquished area.

## 1. INTRODUCTION

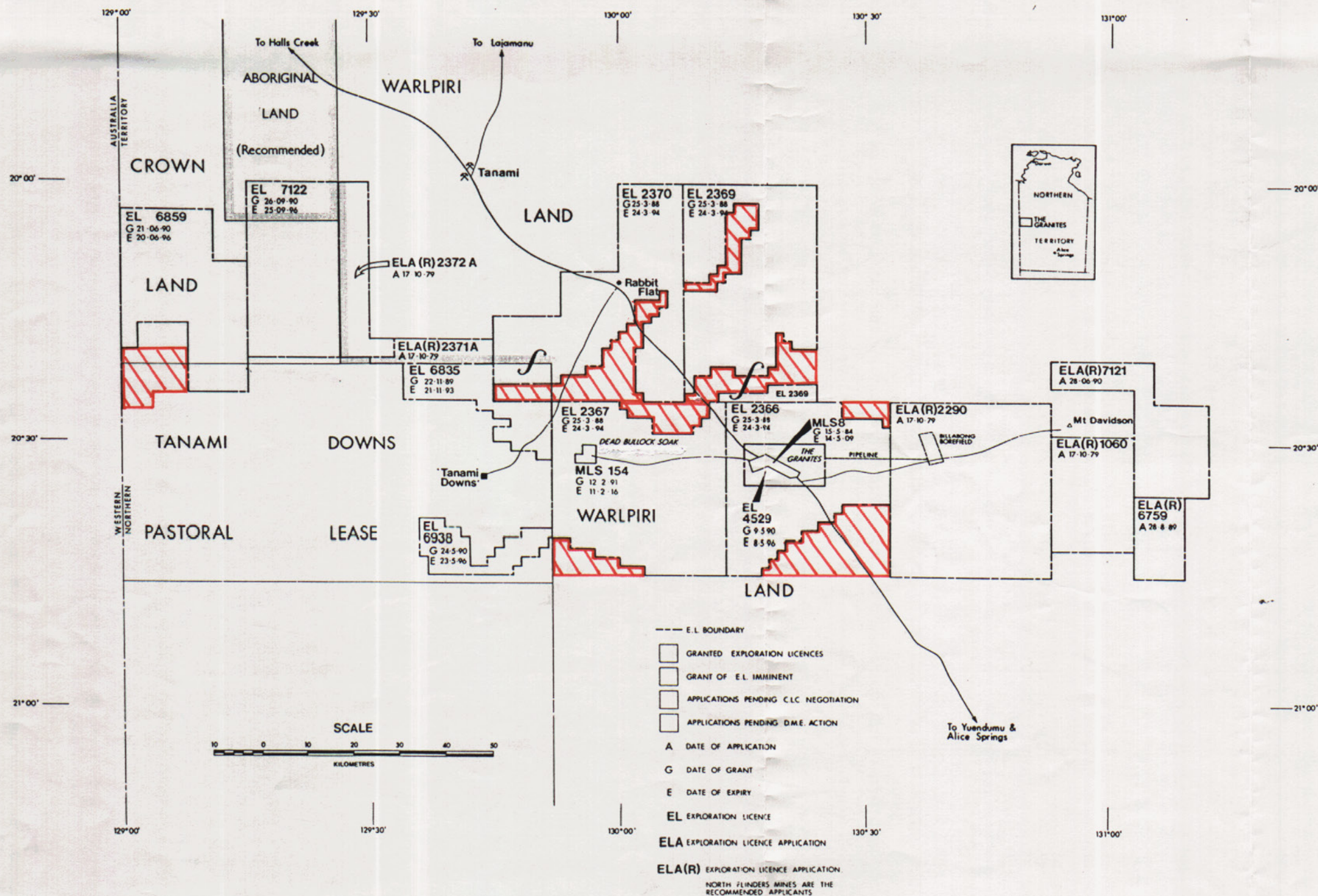
Exploration Licence Nos. 2366, 2367, 2369 and 2370 were granted on 25th March 1988. The bulk of the licence areas are on land granted to the Central Desert Aboriginal Land Trust. A small portion of EL 2370 extends into the Tanami Downs Pastoral Lease which is currently subject to an aboriginal land claim.


Exploration Licence No. 6859 was granted on 21st June 1990. The greater part of the licence area is on crown land currently subject to aboriginal land claim. The southern portion is covered by the Tanami Downs Pastoral Lease.


The majority of exploration activity has been conducted over the retained portions of the licences. During the reporting period expenditure in excess of \$4.6 million was committed to comprehensive regional ore search programs within these areas. The relinquished ground is generally characterised by thick cover associated with palaeodrainage channels where potential exploration targets are deep and difficult to test. As a consequence they have attracted only a modest amount of exploration activity.

A description of work undertaken over these relinquished portions of the licence areas is given in this report (see Figure 1 for location details).





 Relinquished Portion of Tenements

 <b>NORTH FLINDERS MINES LIMITED</b>			
DATA BY	N.F. MINES	NOV. 1990	
DRAWN	Carta Graphics	NOV. 1990	
CHECKED			
APPROVED			
AMENDED	A 3/91 EG 8	4/91 EG	
THE GRANITES NORTHERN TERRITORY			
TENEMENTS AS AT MARCH 1991			
Fig. 1		Drg. N° 20-1131	



## 2. LOCATION AND ACCESS

The Project Area is located approximately 600 kilometres north-west of Alice Springs in The Granites - Tanami region of the Northern Territory. The licences are situated on ground covered by 1:250,000 map sheets SF 52-3, The Granites and SF 52-4, Mount Solitaire.

Access to the area is by air or by road via the Tanami Highway to the Ivy exploration camp adjacent to The Granites mining operation. A network of tracks extend from the Tanami Highway and The Granites - Dead Bullock Soak road facilitating transport to the exploration licences.

### 3. EXPLORATION - WORK UNDERTAKEN AND RESULTS

A reconnaissance mapping program and an airborne magnetic survey were undertaken over all areas now relinquished. The results of this work provided data which affected the scale of later exploration work, the techniques utilised and the perceived prospectivity of sub-areas within each exploration licence.

#### Field Mapping/Evaluation

Field reconnaissance mapping and an associated photointerpretation exercise were carried out over the whole of EL Nos. 2366, 2367, 2369 and 2370. This work identified major palaeodrainage channels with virtually no pre-Tertiary rock exposures. Water bore drilling to support the Company's mining operations has confirmed that Proterozoic and Archaean lithologies in these channels are covered by a substantial thickness of cover rocks. As it is impossible to delineate exploration targets for drill testing beneath this material, areas of this kind were the first to be offered for relinquishment. No mapping is submitted for the relinquished ground as none was undertaken in areas found to be largely covered by recent sediments.

A more recent reconnaissance and evaluation exercise was carried out by helicopter over EL 6859. This first pass assessment confirmed BMR/GSWA mapping in this logistically difficult area and allowed North Flinders to rank exploration targets within the EL. The relinquished area has some good outcrop; however, the available exposures did not indicate that it was prospective for precious or base metals.

#### Airborne Magnetics

Contoured results from two merged, low-level, high quality surveys flown by Geoterrex are presented with this report at a scale of 1:25,000. All exploration licences were covered.

Survey specifications appear below:-

#### AIRBORNE SURVEY SPECIFICATIONS

MAGNETOMETER:	Cesium Vapour optical absorption
	Sensitivity : 0.04 nT
RECORDING INTERVAL:	0.2 sec (approx 13m sampling) at mean ground speed of 220 km/hour.
DATA RECORDING	Geoterrex MADACS acquisition system. Digital to magnetic tape.
NOMINAL TERRAIN CLEARANCE:	Detector in aircraft at 90m.
NOMINAL LINE SPACING:	Traverse lines 500 metres. Tie lines 4.0 km.
FLIGHT PATH NAVIGATION:	Visual from 1:25,000 black & white enlargements of high level colour photography.
FLIGHT PATH RECORD:	Geocam 35mm continuous tracking camera

#### RESIDUAL MAGNETIC CONTOURS

Grid notation refers to Australian Map Grid Zone 52

Digitised from 1:25,000 black & white enlargements of high level colour photography

Magnetics	: Tie line levelled
IGRF (1980)	: Removed, datum 2000 nT added
Grid mesh size	: Polynomial, radius 250 metres
Contour Interval	: 2.10.50 and 250 nT

## 5. CONCLUSION

Exploration results have been insufficient to justify further expenditure on these portions of Exploration Licence Nos. 2366, 2367, 2369, 2370 and 6859. Consequently they have been set aside for relinquishment in 1990.



## 6. LIST OF FIGURES

### Figures

1. Location Plan - Tenements as at March 1991 (Shows Relinquished Portions of Tenements).

### Plans

E.L. No.	Drawing No.	Title	Scale
All	-	E.L. Layout March 1991	1:250,000
2366	50-28	Residual Magnetic Contours Sheet J18	1:25,000
	50-34	Residual Magnetic Contours Sheet K17	1:25,000
	50-35	Residual Magnetic Contours Sheet K18	1:25,000
2367	50-25	Residual Magnetic Contours Sheet J15	1:25,000
	50-26	Residual Magnetic Contours Sheet J16	1:25,000
	(50-31)	Residual Magnetic Contours Sheet K14	1:25,000
	50-32	Residual Magnetic Contours Sheet K15	1:25,000
2369	50-16	Residual Magnetic Contours Sheet H16	1:25,000
	50-17	Residual Magnetic Contours Sheet H17	1:25,000
	50-20	Residual Magnetic Contours Sheet I16	1:25,000
	50-27*	Residual Magnetic Contours Sheet I17	1:25,000
2370	50-18	Residual Magnetic Contours Sheet I14	1:25,000
	50-19	Residual Magnetic Contours Sheet I15	1:25,000
6859	50-1163	Residual Magnetic Contours Sheet I9	1:25,000
	50-1164	Residual Magnetic Contours Sheet I10	1:25,000

\* Photoenlarged from 1:100,000 scale plan (best available data).